

IN THE CLAIMS:

1. (Currently Amended) A low frequency loudspeaker enclosure (subwoofer), characterized by the fact that it includes at least one pair of loudspeakers mounted in the same box and receiving a single signal from a single source, the loudspeakers; facing the in opposite directions;

5 circuitry powering the loudspeakers and powered as separate elements, said circuitry changing an by signals coming from a single source but having different amplitude and phase of said single signal when powering one of said loudspeakers with respect to another of said loudspeakers.

2. (Currently Amended) The low frequency loudspeaker enclosure according to claim 1, in which a first loudspeaker faces towards the front and a second loudspeaker towards the rear, in order to send the sound in the opposite directions, said circuitry including loudspeakers being identical or different from one another and driven by amplification circuits, each including an electronic delay circuit.

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3. (Previously Presented) The low frequency loudspeaker enclosure according to claim 1, in which two open conduits are provided on at least two sides of the front loudspeaker, and in which the rear loudspeaker faces on to a chamber having two side openings.

4. (Original) The low frequency loudspeaker enclosure according to claim 3, in which

said front loudspeaker is contained in the box or protrudes from the front of it.

5. (Previously Presented) The low frequency loudspeaker enclosure according to claim 3, in which said conduits and/or side apertures have variable dimensions to modify the system's acoustic parameters.

6. (Previously Presented) The low frequency loudspeaker enclosure according to claim 1, which can be placed alongside or stacked on other enclosures to form horizontal and vertical arrays, or coupled and installed one above the other in multiples to form groups operating in a "piston band" set-up.

7. (Currently Amended) Method of constructing a low frequency loudspeaker enclosures which comprises:

- the use of at least a pair of loudspeakers, mounted in the same box, facing in opposite directions compared to the sound emission, one facing forward and the other backwards on to a chamber having side openings;

5 - the powering of the aforementioned loudspeakers as separate elements with signals, a single signal coming from a single source, said powering including powering one of the loudspeakers but with a different amplitude and phase of the single signal, by using separate amplification circuits, each including an electronic delay circuit, and

10 - the possibility of varying the reciprocal entity of the enclosure's acoustic parameters,

modifying the load volume of the loudspeaker and/or dimensions of the conduits/apertures on the front and/or apertures positioned at the rear, in order to obtain different dispersion patterns.

8. (Previously Presented) The low frequency loudspeaker enclosure according to claim 2, in which two open conduits are provided on at least two sides of the front loudspeaker, and in which the rear loudspeaker faces on to a chamber having two side openings.

9. (Previously Presented) The low frequency loudspeaker enclosure according to claim 4, in which said conduits and/or side apertures have variable dimensions to modify the system's acoustic parameters.

10. (Previously Presented) The low frequency loudspeaker enclosure according to claim 2, which can be placed alongside or stacked on other enclosures to form horizontal and vertical arrays, or coupled and installed one above the other in multiples to form groups operating in a "piston band" set-up.

11 - 13 (Cancelled)

14. (New) A method for reproducing sound and controlling a spatial dispersion of the sound, the method comprising the steps of:  
receiving a single audio signal;

splitting said single audio signal into a first leg and a second leg, said first and second  
5 legs being electrically parallel with respect to said single audio signal;

providing a first loudspeaker in said first leg;

providing a second loudspeaker in said second leg;

varying an amplitude and phase of said audio signal in said first leg with respect to said  
second leg to selectively control the spatial dispersion of the sound emitted by said first and  
10 second loudspeakers.

15. (New) A method in accordance with claim 14, wherein:

said varying of the amplitude and phase is performed to create an interference  
phenomena in the emitted sound, where said interference phenomena selectively attenuates the  
sound spatially.

16. (New) A method in accordance with claim 14, wherein:

said single audio signal is an electrical signal.

17. (New) A method in accordance with claim 14, further comprising:

providing an enclosure around said first and second loudspeakers, said enclosure having  
a load volume, conduits and apertures for directing the sound from said loudspeakers;  
5 selectively varying one of said load volume, said conduits and said apertures to control  
the spatial dispersion of the sound.

18. (New) A loudspeaker arrangement for reproducing sound and controlling a spatial dispersion of the sound, the arrangement comprising:

a first and a second leg connected in parallel to a single audio source and receiving a single audio signal, each of said first and second legs including a loudspeaker;

5 a circuit arranged in one of said legs to selectively vary an amplitude and phase of said audio signal in said one leg with respect to another said leg in order to control the spatial dispersion of the sound.

19. (New) An arrangement in accordance with claim 18, further comprising:

another circuit arranged in said another leg, said circuit and said another circuit cooperating to vary said amplitude and phase of said audio signal in said one leg with respect to said another leg in order to control the spatial dispersion of the sound.

20. (New) An arrangement in accordance with claim 18, wherein:

said circuit varies the amplitude and phase of said single audio signal to create an interference phenomenon in emitted sound from the loudspeakers, where said interference phenomenon selectively attenuates the sound spatially with respect to said loudspeakers.

21. (New) An arrangement in accordance with claim 18, wherein:

said audio signal and said circuit are electrical.

22. (New) An arrangement in accordance with claim 18, further comprising:  
an enclosure around said first and second loudspeakers, said enclosure having a load  
volume, conduits and apertures for directing the sound from said loudspeakers, one of said load  
volume, said conduits and said apertures being selectively variable to control the spatial  
dispersion of the sound.

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23. (New) An arrangement in accordance with claim 22, wherein:  
said first loudspeaker faces in a first direction on a first face of said enclosure and said  
second loudspeaker faces in an opposite direction on a second face of said enclosure in order  
to send the sound in opposite directions, said enclosure including two open conduits provided  
on at least two sides of said first face of said enclosure;  
said enclosure defines a chamber with two side apertures and said second loudspeaker  
emits sound into said chamber;  
one of said conduits and apertures have selectively variable dimensions to control the  
spatial dispersion of the sound.